

## ABSTRACT

Disclosed is a velocity estimator using a level crossing rate. The velocity estimator comprises a power calculator for calculating power values of a signal received from a mobile terminal; a mean power calculator for calculating mean power values for  
5 M power values according to a predetermined down-sampling factor M; an interpolator for interpolating the mean power values according to a predetermined interpolation ratio L; a root mean square calculator for calculating a root mean square value using an output of the interpolator; a level crossing counter for counting a level crossing frequency representing how many times the output of the interpolator crosses a level  
10 crossing threshold determined according to the root mean square value, for a predetermined time period; and a velocity calculator for calculating a velocity estimation value of the mobile terminal using the velocity crossing frequency.